



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,585	12/05/2001	Timothy R. Spooner	Analog 5721-5	3538

7590 05/20/2004  
Samuels, Gauthier & Stevens LLP  
Suite 3300  
225 Franklin Street  
Boston, MA 02110

EXAMINER

HOGANS, DAVID L

ART UNIT	PAPER NUMBER
----------	--------------

2813

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/007,585

Applicant(s)

SPOONER ET AL.

Examiner

David L. Hogans

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 26-29 is/are pending in the application.
- 4a) Of the above claim(s) 1-11, 24, 25 and 32-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This Office Action is in response to the Amendment filed on February 23, 2004.

#### ***Status of Claims***

Claims 26-29 are pending. Claims 12-23, 30,31 and 46-60 are cancelled.

Claims 1-11, 24, 25 and 32-45 are withdrawn.

#### ***Claim Rejections - 35 USC § 112***

The rejections of Claims 26-29 via 35 U.S.C. § 112, second paragraph, are withdrawn pursuant to Applicant's Amendments submitted February 23, 2004.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by, another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 26-28 are rejected under 35 U.S.C. 102(e) as being anticipated by 6,245,593 to Yoshihara et al.

In reference to Claim 26, Yoshihara et al. teaches a method for protecting a MEMS wafer:

- mounting, upon a backside of the MEMS wafer (1), a layer of dicing tape (7b), the MEMS wafer having a plurality of MEMS structure sites (100 or 3) on a front

side (1a) and a plurality of through holes (1c), each through hole corresponding to a MEMS structure site (100 or 3), the through holes being formed such that each through hole penetrates through the wafer from the backside of the wafer (1b) to the front side (1a) (See Figures 1-8 and columns 3-7 lines 20-05);

- dicing (8) the MEMS wafer (1) into a plurality of dies such that each die includes a MEMS structure site and a corresponding through hole (D1); (See Figures 1-8 and columns 3-7 lines 20-05) and
- mounting, upon the dicing tape (7b), a layer of transfer tape (7a) (See Figures 1-8 and columns 3-7 lines 20-05)

In reference to Claim 27, Yoshihara et al. teaches:

- wherein the layer of dicing tape has a UV releasable adhesive (See Figures 1-8 and columns 3-7 lines 20-05)

In reference to Claim 28, Yoshihara et al. teaches:

- removing the individual diced dies from the wafer (See Figures 1-8 and columns 3-7 lines 20-05)

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2813

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over 6,245,593 to Yoshihara et al. further in view of 5,360,873 to Ohkawa et al.

Incorporating all arguments of Claims 26 and 28 and noting that Yoshihara et al. fails to explicitly teach wherein individual dies are removed by initially exposing the dicing tape to a UV radiation and disengaging the dies from the dicing tape with a die ejection needle.

However, Ohkawa et al., in column 23 lines 40-52, teaches wherein individual dies are removed by initially exposing the dicing tape to UV radiation and disengaging the dies from the dicing tape with a die ejection needle.

It would have been obvious to one of ordinary skill in the art to modify Yoshihara et al. by incorporating individual dies removed by initially exposing the dicing tape to UV radiation and disengaging the dies from the dicing tape with a die ejection needle, as taught by Ohkawa et al., to remove the die for further processing.

### ***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 26-29 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 115 and 117 of copending Application No. 10/006,966 in view of 6,245,593 to Yoshihara et al.

For Claim 26 of the instant application, Claim 115 of 10/006,966 recites all the limitations except for mounting a layer of transfer tape upon the dicing tape. However, Yoshihara et al., in Figures 1-8 and columns 3-7 lines 20-05, teaches mounting a layer of transfer tape (7b) upon the dicing tape (7a). It would have been obvious to one of ordinary skill in the art to modify 10/006,966 by incorporating a layer of transfer tape upon the dicing tape, as taught by Yoshihara et al., to adhere the individual die to a substrate for additional fabrication steps.

This is a provisional obviousness-type double patenting rejection.

The Applicant's request that the provisional obviousness-type double patenting rejection of Claims 29-29 be held in abeyance until the final allowable language of Claims 115 and 117 is determined, is denied. The Examiner is open to reconsideration of such request upon a showing of a basis for such grounded in law, rule or regulation.

***Response to Arguments***

3. Applicant's arguments with respect to claims 26-29 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Hogans whose telephone number is (571) 272-1691. The examiner can normally be reached on M-F (7:30-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (571) 272-1702. The fax phone

Art Unit: 2813

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dh

DA

A handwritten signature in black ink, appearing to read "V. [unclear]", located at the bottom right of the page.